The Monitor

The Newsletter of the ETV Advanced Monitoring Systems (AMS) Pilot

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Diesel information:

Diesel particulate matter (PM) is a complex pollutant mixture emitted from diesel engines. Sources vary from passenger vehicles to heavy-duty trucks, railroad locomotives, and stationary diesel generators. Current regulations require the reduction of diesel emissions by either reformulating the fuel or using emissions control technologies (e.g., catalysts) that reduce particulate emissions. Federal and state agencies are working to control all PM, including that attributable to diesel engines, under the proposed fine particulate matter standards (called PM2.5, expressed in concentration units that the public is exposed to in ambient air).

Heavy-duty highway and non-road diesel engines are the largest sources of diesel PM in the United States. EPA estimates that on-road and non-road diesel PM emissions for 1997 totaled 516,000 tons nationwide. This spring EPA is expected to propose new regulations requiring much lower sulfur levels in diesel fuels and tougher standards for heavy-duty diesel engines.

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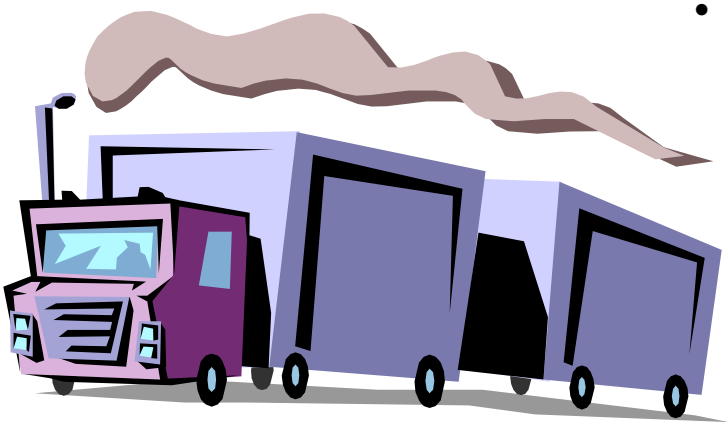
Vendors with Instruments to Monitor Diesel Particulate Matter Sought

The AMS pilot is looking for vendors with instruments that can monitor particle emissions to the air from diesel engines and that are either commercially ready or adaptable for such use.

Stakeholder committee perspectives. The need to monitor diesel particulate matter (diesel PM) was discussed by members of the AMS pilot's air stakeholder committee at its Fall 1999 meeting. Committee members Jeff Cook of the California Air Resources Board and Judith Chow of the Desert Research Institute were asked to prepare a summary of current diesel PM issues. Here are excerpts:

- There is a regulatory need for instruments that can monitor for diesel PM emissions in general.
- Diesel vehicle manufacturers are under increasing pressure from national and state regulatory agencies to reduce tailpipe emissions.
- There are no available ambient air quality methods to directly measure diesel PM. Further work is needed to identify or develop instruments that can do this.
- The focus needs to be on a method to quantify the ambient air levels of diesel PM. Instruments exist that measure components of diesel emissions (e.g., soot), but what is needed is an instrument or instruments that can identify and quantify the ambient particulate levels attributable to diesel sources.
- A monitoring instrument that could establish ambient levels of diesel PM would help (1) define the human health risk caused by these pollutants, (2) indicate the portion of ambient PM that originates from diesel sources, and (3) establish an air quality baseline from which changes in ambient air concentrations (due to expected emissions reductions), can be determined.
- Several stakeholder committee members expressed the opinion that some ambient air monitors might be adaptable as indicators of diesel PM. (Note: The AMS pilot plans to conduct a verification test for ambient fine particle monitors beginning late this summer.)



Contact Battelle. Interested vendors should contact Tom Kelly at Battelle (614-424-3495) to discuss their ideas and monitoring equipment.

Meet the Stakeholder Committees

Two members of the AMS pilot's stakeholder committees are spotlighted in each issue of *The Monitor* – one each from the air and water committees.

Alan Mearns
Water Stakeholder Committee

Dr. Mearns is the leader of the NOAA biological assessment team at the Hazardous Materials Response and Assessment Division (HMRAD) in Seattle. His team provides guidance on resources at risk from pollution and spills of hazardous materials and oil and evaluates the environmental benefits and impacts of pollution response technologies, including combustion, bioremediation, use of chemicals, and no response at all. Dr. Mearns received his Ph.D. in fisheries from the University of Washington and his M.A. and B.S. degrees in biology and zoology from California State University at Long Beach. He led the team in the Biology Division of the Southern California Coastal Water Research Project that developed a new understanding about effects of wastewater discharges and other human actions on the health, diversity, and abundance of coastal ecosystems. He also pioneered many of the survey and monitoring methods now being routinely used to address similar issues around the world. His team is now conducting a long-term assessment of the recovery of Alaska shorelines following the 1989 Valdez oil spill. Dr. Mearns is a member of the editorial board of the Water Environment Federation, and is past president and vice president of the Washington chapter of the American Institute of Fishery Research Biologists.

Karlyn Black-Kaley
Air Stakeholder Committee

Dr. Black-Kaley is a consultant with Vital-D-Signs specializing in air pollution health effects research. Previously, she was an air pollution specialist in the Health Effects & PM_{10} Research Division at the California Air Resources Board (CARB). In that assignment, she designed and conducted research under the board's extramural health effects research program, examining questions regarding air pollution and its effects on human health and welfare. Prior to that position, she was an associate air pollution specialist for the PM_{10} statewide liaison in the executive office of CARB's Office of Air Quality and Transportation Planning and for the compliance assistance program, where she conducted workshops and reviewed local air pollution control plans. She also prepared and presented testimony before state and local boards and evaluated proposals for federal grant funding projects. Dr. Black has conducted compliance assistance seminars and workshops for affected industry groups and researched and developed educational materials. She received her Ph.D. in endocrinology from the University of California, Davis, and her B.S. in chemistry and biology from Willamette University.

Diesel information (continued):

The primary chronic health concerns associated with diesel emissions are nonmalignant respiratory effects and lung cancer. EPA is preparing a draft comprehensive review of the health effects of exposure to exhaust from diesel engines, titled The Health Assessment Document for Diesel Emissions. *In its review of the draft document, diesel exhaust was described as "likely to be carcinogenic to humans," by EPA's Clean Air Science Advisory Committee (CASAC).*

The draft health assessment is available on the web at http://www.epa.gov/ncea/diesel.htm.

Note to Vendors:

For additional information about upcoming verification tests, please contact the following Battelle staff:

Mercury CEMs, NO/NO_2 analyzers and for general information about all AMS verification tests–Tom Kelly, 614-424-3495 or kellyt@battelle.org.

Fine particle monitors, multi-parameter water probes –Ken Cowen, 614-424-5547 or cowenk@battelle.org.

Optical open-path monitors–Jeff Myers, 614-424-7705 or myersjd@battelle.org.

Portable water analyzers– Adam Abbgy, 614-424-5484 or abbgya@battelle.org.

Upcoming Events

May 9-11, 2000
EnviroExpo 2000, Boston, MA

May 15-16, 2000
23rd Annual Conference on Analysis of Pollutants in the Environment, Pittsburgh, PA

June 18-22, 2000
A&WMA 93rd Annual Meeting & Exhibition, Salt Lake City, UT. ETV will host a panel discussion at this conference, featuring vendors from three pilots giving perspectives on the verification process.

Visit the AMS pilot on the web at http://www.epa.gov/etv/07/07_main.htm.